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## Faculty Working Papers

THE EFFECTS OF LEADERSHIP INVOLVEMENT AND  
THE VALUE OF THE TASK ON SUBORDINATES' PERFORMANCE

J. Keith Murnighan and Thomas K. Leung

#275

College of Commerce and Business Administration  
University of Illinois at Urbana-Champaign



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by

J. Keith Murnighan and Thomas K. Leung\*  
University of Illinois

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Abstract

The present study manipulated two variables, leadership involvement in subordinates' discussion of a problem and the value of the subordinate's task as perceived by the subordinate, and assessed their impact on two measures (quantity and quality) of productivity and a set of affective questionnaire items. Undergraduate students led by graduate student leaders (whose involvement varied over four levels) discussed problems in their curriculum and individually suggested solutions to these problems. The results showed that: (1) a more involved leader increased the quantity of production; (2) a task which was highly valued increased both the quantity and the quality of production; (3) a significant interaction between the two variables indicated that the poorest quality production is evidenced when the leader is involved and the task is of low value; and (4) both variables had an impact on affective responses (e.g., self reports of satisfaction) in the expected direction. The findings were discussed with respect to the appropriate strategies for optimal performance.



Decisions which affect the behavior of large numbers of people are often made by individuals in positions of leadership. Indeed, the leader, the supervisor, and the foreman are all well-identified decision-making roles in our industrialized society. Since the early studies by Lewin (1947) and his associates, however, it has been suggested that a leader might positively influence his subordinates' performance by allowing them to make decisions for themselves or by allowing them to have an influence on his own decision.

Lowin's (1968) extensive review on the impact of participative decision making on subordinate's productivity and satisfaction documented the fact that the research has yielded both positive and negative findings. In view of this, Lowin suggested that factors which mediate the effectiveness of PDM programs may yield more consistent, although also more complicated, results. He further hypothesized that the degree of congruence between supervisors' and subordinates' attitudes on the usefulness of PDM programs is crucial to its success. He suggested that if both parties did not commit themselves to the program, the system would degenerate into a hierarchical decision-making pattern, where the supervisor was again responsible for all decision-making. One of the purposes of the present study was to test another assumption concerning attitudinal congruence: Without congruence of attitudes on the value of the task at hand, by both those in authority and their subordinates, the implementation of a decision may be attenuated. Festinger's (1950) theory of social communication seconds this hypothesis. It implies that for groups to attain their goals, the uniformity of individual group members in support of that goal is a necessary condition. Recent

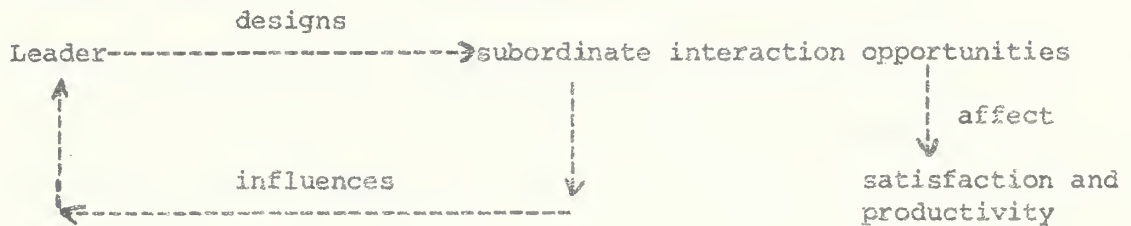


research has supported this proposition. Castore and Murnighan (1973) reported research on five-person decision-making groups which showed that group members whose own preferences were similar to the group decision were also the individuals who supported the group decision most vehemently when it was attacked. Likewise, DeVries and Snyder (1974), reporting a study of faculty participation in departmental decision-making, have shown that the faculty members' evaluation of the importance of PDM had the greatest impact on the effectiveness of PDM programs.

The present study also investigated another variable of potential importance in the decision making process. Maier (1952) has reported that a leader who acts to facilitate a discussion by his subordinates will increase their satisfaction with the group and also their productivity. By the very act of discussing an issue with a group of subordinates, a leader is allowing them to influence the decision-making process while he retains the authority to make the final decision. In actual situations, then, different degrees of influence can be exerted by subordinates, and the key determinant of this influence may be the amount of direct interaction between the leader and his subordinates. This interaction, in turn, is determined by the leader, who can choose to institute various types of interaction sessions. In addition, the amount of interaction allowed the subordinate may also affect his outlook on his job (i.e., his satisfaction) and his output (i.e., productivity). The situation as stated here can be depicted by a small system:







The present study, therefore, investigated the possible effects of the different levels of interaction allowed subordinates by varying the leader's involvement in the subordinates' discussion of the problem. In every case, however, the leader retained the responsibility for the final decision.

A final consideration concerns whether or not the two variables, the leader's involvement and the value of the subordinate's task, have more than an additive impact upon performance. While Lowin advocated the use of field research for the study of PDM, the interaction of two variables may be more clearly measured in the laboratory. While this research may be questioned for its use of students as subjects, the students are members of an organization (the College they are enrolled in) and the tasks they performed concerned problems within that organization.

Specifically, then, the following hypotheses were tested:

(1) Increased involvement by the leader during his subordinates' discussion will increase subordinates' satisfaction with his decision and their efforts to implement his decision by increasing their output.

(2) An individual will perform best and be most satisfied with those tasks which he rates as most important. Those tasks rated as least important will yield the poorest returns.



(3) The effects of increased involvement by the leader and the value of the task to the subordinate will interact to cause the best performance in the high involvement-most valued condition and the poorest performance in the low involvement-least valued condition.

#### METHOD

Subjects. The subjects for the experiment were 240 male undergraduates enrolled in an introductory organizational behavior course at a large midwestern university. Subjects received credit toward a course requirement for their participation. All of the subjects were enrolled in the College of Commerce and, because most of them were sophomores or juniors, all were aware of the rules, regulations, and problems inherent in that organization, especially as they related to undergraduates.

Procedure. Subjects were told that they would be participating in a study investigating "the effects of a leader on a group's decision" and "problems in the undergraduate program." Subjects were told that their responses in the experiment would be reported to the Dean of the Undergraduate Affairs Office, who had the power to act on any of their recommendations.

One subject (actually a confederate of the experimenter) was introduced as a graduate student who had recently completed the undergraduate program and who would act as the group's leader. Subjects then discussed the importance of a set of ten problems.<sup>1</sup> During the discussion, one subject was designated to take notes of the discussion to facilitate the leader's decision. The leader left the room at the



completion of the discussion, ostensibly to make his decision as to which of the problems were most important. The second stage of the experiment consisted of each subject individually ranking the ten problems as to their importance. They were told that their individual rankings would be given to the leader to aid him in reaching his decision. After they had completed this individual ranking, and while the leader made his decision, subjects noted any additional problems which they perceived in the program.

The third stage of the experiment began with the return of the leader, who announced his decision. He selected four of the problems as "most important," and assigned one to each of the subjects. Subjects were asked to write a statement stating why the problem was important, and to outline possible solutions when possible. Students were told that their responses in this portion of the study would be reported to the Dean (which, in fact, they were).

Three confederates participated in the study. Each was a leader in each of the conditions an equal number of times. In the control condition, there was no mention of a leader, and no confederate appeared. All other procedures remained the same. Subjects were each assigned a problem to discuss, but the selection of this problem was ostensibly random.

The Problems. The set of ten problems were taken from an original list of twenty-two problems obtained from the Undergraduate Affairs Office of the College. The original twenty-two were presented to a small group of subjects for ratings of their relative importance. Those items which



everyone agreed were either very important or unimportant were not used for two reasons: (1) discussion would be enhanced by the inclusion of relatively controversial problems; and (2) manipulation of the importance of the problem assigned to each subject (discussed more fully below) was facilitated by some diversity of preference within the group. The final set of ten problems was chosen from items which were rated very important, important, and unimportant by at least 10% of the subjects questioned.

Design. The two independent variables which were manipulated in the study were the amount of involvement by the leader of the discussion which preceded his decision, and the value each subject had initially assigned to the problem he eventually was asked to discuss. Four levels of the leadership variable were considered: (1) The Leader-Facilitator condition: Here the leader took an active part in the discussion. He did not, however, present any opinions of his own and did not evaluate either the group members or their contributions. His only role was to facilitate the discussion (Maier, 1952). (2) The Leader-Present condition: Here the leader was in the room with the group members, but he did not participate in the discussion in any way. The subjects were told that he would sit and listen to their discussion, but would not participate. (3) The Leader-Absent condition: In this condition, the leader was introduced to the subjects before their discussion, but did not remain in the room. Instead, subjects were instructed to take notes of their discussion, so that the leader could be given a summary of their comments without his interfering with their discussion. The leader, as in the previous two conditions, did return to inform the subjects of his decision. (4) Control: No leader was present in this condition.





The value of the task was manipulated by assigning problems which specific subjects had differentially ranked on importance following the group discussion. One subject received the problem he ranked as most important. A second subject received a problem which he had ranked as 3rd most important. The third subject received his 5th ranked problem, and the fourth subject received his 7th ranked problem. In order to increase the believability of the leader's decision that these four problems were the most important of the ten discussed, the experimenter chose four problems which at least three of the group members had ranked as relatively important. The group leader (and alleged decision maker) actually had no input into this decision.

Leadership involvement varied for different groups, depending on the condition; the value of the task varied within each group (i.e., each group contained an individual in each of the four levels of task value). The different leadership behaviors were used for fifteen groups each, yielding sixty four-person groups.

The dependent variables consisted of two behavioral measures of the individual subject's performance on his task and the subjects' responses to a questionnaire to determine various subjective reactions to the decision, the leader, and the task (see Table 1). The variable of greatest interest, the subjects' performance, was operationalized as (1) the number of words written in discussing the importance of the problem assigned; and (2) the quality of their response (which was independently rated by two trained judges). The subjects were given no time limit for their task, but were told to bring the form to the experimenter who was waiting in another room when they finished. The



questionnaire was completed after this task. It consisted of fifteen items which asked subjects to rate, on a seven-point scale, their satisfaction with the decision, their commitment to the solutions which they had presented, their perceptions of the leader, etc. (see Table 1). In addition, two questions were included to test the effectiveness of the manipulations: one probing the amount of participation by the decision maker (question #5), the other asking them to rate the importance of the problem which they had been asked to discuss (question #7).

## RESULTS

Questionnaire Items. The results for each of the main effects for each of the questionnaire items is shown in Table 1. Questions 5 and 7 checked the effectiveness of the manipulation of the two independent variables.

Insert Table 1 about here.

Both predicted main effects were significant. Post hoc tests using the Newman-Kuels procedure (Winer, 1962), indicated that (1) the leader who acted as a facilitator in the group's discussion was perceived to have participated more than the leader who was only present and the leader who was absent; and (2) those individuals who received the problem which they had ranked as most important, rated their ranking as significantly more important than subjects assigned lower-ranked problems. Although the other comparisons showed no significant differences, the trend was in the right direction for the value of each problem, i.e., the third-ranked problem was rated as more important than the fourth and the fifth



was rated as more important than the seventh. Neither of the interactions for these items was significant. Hence, the manipulations were perceived by the subjects as intended. An additional main effect did reveal that the subjects in the control condition, who did not have a leader, rated the importance of their problems lower than did the subjects in any of the groups who were assigned a leader.

The other questionnaire items yielded several other significant findings. The involvement of the leader significantly affected all the questions (except one) concerning: (1) the leader's decision; and (2) the leader's characteristics (his intelligence, open-mindedness, etc.). In addition, the presence of a leader, especially a participating leader, made the experiment more interesting and meaningful for subjects. The post hoc analyses of the main effects for leadership involvement showed that most of the differences resulted from the participation of the leader in the discussion, and that the leader who was merely present had no more impact than an absent leader.

The value of the problems assigned to the individuals had a significant impact on the questionnaire items which concerned the decision which was reached, irrespective of the leader's behavior. Post hoc analyses of these main effects indicated that those who were assigned the problem which they valued most were more satisfied with the decision, were more committed to defend the decision, and felt the leader's decision was more similar to a decision which the group would have reached independently than those assigned problems rated as less important. Also, those who were assigned the problem which they valued least felt that the decision was less wise and less representative than other subjects and were less committed to defending it.

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Analysis of the questionnaire items resulted in only one significant interaction, for the question concerning the meaningfulness of the experiment. The mean responses ranged from 3.6 to 5.1, with one exception--the leader-absent, 7th-ranked problem condition. Not surprisingly, subjects in this condition rated the experiment as considerably less meaningful ( $\bar{X}=2.7$ ) than any others in the study.

The mean number of words written to discuss the importance of the problems which were assigned are shown in Table 2. Both main effects were significant while the interaction was not significant. The post hoc tests of the main effects revealed that groups who had leaders who remained present produced a greater amount than the control

Insert Table 2 about here.

condition groups, who worked without a leader. Also, those individuals who worked on problems which they had ranked seventh out of ten problems produced significantly less than individuals who worked on a problem which they had ranked as more important.

The array of means depicted in Table 2 does indicate that the hypothesis of an interaction between the two variables did have some impact on the productivity shown by the group members. However, due to a large amount of within cell variance, the apparent relationship was not statistically significant.

The ratings of two trained raters on four 7-point questions (How complete were the suggested solutions for the problem; How creative were the suggested solutions to the problem; How feasible were the suggested solutions to the problem; and how would you rate the overall quality of





the suggested solutions?) were averaged to yield a single score for the quality of each response. (Interrater correlations for the ratings summed over the four questions was .57,  $p < .001$ ). The mean quality scores for each of the conditions are shown in Table 3. Analysis of variance revealed a significant main effect for the value of the task and a significant interaction. Post hoc analysis of the value main effect revealed that the individual who was assigned the problem which he had ranked seventh wrote

Insert Table 3 about here.

a response of significantly poorer quality than subjects assigned other problems which they had rated as more important. Post hoc analysis of the interaction showed that the largest differences were in the leadership-participating condition, and that the effects in this condition mirrored those of the main effect.

#### DISCUSSION AND CONCLUSIONS

The data show support for all three hypotheses. Increased involvement by the leader, especially when he acts as a facilitator during the subordinates' discussions, increased the quantity produced by group members. The value which they attached to the problem they were assigned influenced both the quantity and the quality of their task responses, in the predicted direction. In addition, leadership involvement and the value of the task interacted to show that, when the leader is involved, an individual assigned a task which he has rated as relatively unimportant will respond with low quality work.



The results from the questionnaire items also indicate the extent of the impact of the two variables on the affective reactions of the subjects. For instance, an involved leader or an important task have been shown to significantly enhance a subordinate's satisfaction with the leader's decision. Other questions reveal that the groups who were led by an involved leader reacted significantly more positively on several dimensions than leaderless groups, and, in some cases, more positively than groups with less-involved leaders. Similarly, subjects who were assigned problems which they themselves had ranked as most important showed greater positive affect for the leader's decision than subjects assigned a problem which they had ranked as the 7th most important of ten problems. These results indicate that both attitudes toward the leader's decision and behavior which follow his decision are affected by the involvement of the leader and the value of the assigned task.

The behaviors of a leader who is preparing to make a decision and the value of the task as perceived by the subordinate also affected the productivity and satisfaction of subordinates, in some quite surprising ways. In particular, the finding that those individuals who are assigned a problem which they ranked as 7th most important produced the poorest quality response only in the condition where the leader acted as a facilitator was certainly unexpected. It might be fruitfully considered as a reaction to an inequitable (Adams, 1965) situation or as a response to unfulfilled expectations (Porter, Lawler and Hackman 1974). This finding speaks to the supervisor who has taken the first step in considering his subordinate's opinions before he makes a decision



which has an impact on them. He may consult with them and involve himself in their discussions, but if he subsequently assigns them a relatively unimportant task, he will be deprived of the quality of production which might have been attained if he had merely made the decision without consulting them. Merely displaying "good" leadership in one segment of the supervisor-subordinate interaction space does not appear to be enough to insure increased productivity by one's subordinates.

The effects resulting from the manipulation of the value of the task speak to its importance in a leader's decision making behavior patterns. At least for college students, a task must be relatively important before it is completed well. DeVries and Snyder's research, mentioned earlier, contributed evidence which supported Lowin's assertion that the attitudes of both subordinates and authorities must be supportive of PDM before it is successful. The present research adds the perceived value of a task as an additional potential mediator of not only PDM programs, but any form of organizational decision making.



Table 1. Mean responses and summary of analyses for the questionnaire items (using 7-point scales).

Question	Leadership Involvement			Ranking of Assigned Problem (Value)				p<		
	Facilitator	Present	Absent	Control	1	3	5		7	
1. How satisfied do you feel with the leader's decision?	5.00 <sup>a</sup>	4.15 <sup>b</sup>	3.97 <sup>b</sup>	-	.0008	5.13 <sup>a</sup>	4.62 <sup>ab</sup>	4.13 <sup>bc</sup>	3.60 <sup>c</sup>	.00065
2. If you had to defend the decision, how committed would you be?	4.85	4.62	4.80	-	ns	5.33 <sup>a</sup>	4.77 <sup>ab</sup>	4.51 <sup>b</sup>	4.40 <sup>b</sup>	.01
3. How representative was the leader's decision?	4.70 <sup>a</sup>	4.05 <sup>b</sup>	3.90 <sup>b</sup>	-	.02	4.80 <sup>a</sup>	4.56 <sup>a</sup>	4.09 <sup>ab</sup>	3.42 <sup>b</sup>	.0005
4. How wise do you feel the leader's decision was?	4.78 <sup>a</sup>	4.40 <sup>ab</sup>	4.08 <sup>b</sup>	-	.03	4.84 <sup>a</sup>	4.69 <sup>a</sup>	4.40 <sup>a</sup>	3.76 <sup>b</sup>	.002
5. How much did the leader participate in your discussion?	4.00 <sup>a</sup>	1.55 <sup>b</sup>	1.70 <sup>b</sup>	-	.00001	3.00	1.87	2.47	2.33	ns
6. How committed are you to the solutions you presented for the problem you were assigned to discuss?	5.22	5.20	5.15	4.68	ns	5.57 <sup>a</sup>	5.23 <sup>a</sup>	5.02 <sup>a</sup>	4.43 <sup>b</sup>	.0006
7. How important did you rate the problem you were assigned?	4.60 <sup>a</sup>	4.30 <sup>a</sup>	4.25 <sup>a</sup>	3.00 <sup>b</sup>	.03	5.20 <sup>a</sup>	3.95 <sup>b</sup>	3.55 <sup>b</sup>	3.15 <sup>b</sup>	.004





(Table 1 Continued)

Question	Leadership Involvement		Ranking of Assigned Problem (Value)				p<
	Facilitator	Absent Control	1	3	5	7	
8. How similar was the leader's decision to the decision which the group would have made by itself?	3.92	3.63	4.18 <sub>a</sub>	3.89 <sub>ab</sub>	3.71 <sub>ab</sub>	3.40 <sub>b</sub>	.007
9. How much do you like the leader?	5.00 <sub>a</sub>	4.25 <sub>b</sub>	4.58	4.53	4.47	4.62	ns
10. How intelligent do you feel the leader is?	5.18 <sub>a</sub>	4.73 <sub>b</sub>	4.84	4.87	4.73	4.89	ns
11. How open-minded was the leader?	5.90 <sub>a</sub>	4.45 <sub>b</sub>	5.24	5.04	4.98	4.73	ns
12. How interested were you in this experiment?	4.93 <sub>a</sub>	4.43 <sub>ab</sub>	4.35	4.48	4.40	4.60	ns
13. How meaningful was this experiment?	4.68 <sub>a</sub>	3.78 <sub>b</sub>	4.17	4.22	4.20	3.90	ns

Note: All results with 4 means were determined by analysis of variance with 3 and 224 df; those with 3 means (where the control condition made responses inappropriate) used 2 and 224 df. Cells with common subscripts, within a single question and a single variable, are not significantly different from one another at the .05 level of significance using the Newman-Kuels procedure.



Table 2. Mean number of words written in each of the sixteen cells (Interaction  $F=.88$ , ns; Main effect for leader,  $F=4.61$ ,  $df=3,224$ ,  $p<.005$ ; Main effect for value,  $F=3.18$ ,  $df=3,224$ ,  $p<.03$ ).

Ranking of Assigned Problem (Value)	Facilitator	Leadership Involvement			Mean
		Present Only	Absent	Control	
1	146.3	120.9	123.8	120.9	128.0 <sub>a</sub>
3	116.3	138.7	130.9	91.9	119.4 <sub>a</sub>
5	136.7	130.9	103.4	102.2	118.3 <sub>a</sub>
7	124.6	102.8	95.6	74.8	99.5 <sub>b</sub>
Mean	131.0 <sub>a</sub>	123.3 <sub>a</sub>	113.4 <sub>ab</sub>	97.5 <sub>b</sub>	116.3

Note: Cells sharing a common subscript, within the levels of each main effect, are not significantly different from one another at the .05 level using the Newman-Kuels procedure.



Table 3. Mean quality scores for the two raters totalled. (Interaction  $F=2.22$ ,  $df=3,224$ ,  $p<.025$ ; Main effect for leader  $F=1.23$ , ns; Main effect for value  $F=6.96$ ,  $df=3,224$ ,  $p<.0002$ ).

Ranking of Assigned Problem (Value)	Leadership Involvement				Mean
	Facilitator	Present Only	Absent	Control	
1	5.17 <sub>a</sub>	4.12 <sub>ab</sub>	4.71 <sub>ab</sub>	4.84 <sub>a</sub>	4.71 <sub>a</sub>
3	5.01 <sub>a</sub>	5.18 <sub>a</sub>	4.88 <sub>a</sub>	4.40 <sub>ab</sub>	4.87 <sub>a</sub>
5	5.07	4.79 <sub>a</sub>	4.83 <sub>a</sub>	4.29 <sub>ab</sub>	4.75 <sub>a</sub>
7	3.54 <sub>b</sub>	4.45 <sub>ab</sub>	4.32 <sub>ab</sub>	3.97 <sub>ab</sub>	4.07 <sub>b</sub>
Mean	4.70	4.64	4.69	4.38	4.60

Note: Cells sharing a common subscript, within the levels of the main effect or the interaction, are not significantly different from one another at the .05 level using the Newman-Kuels procedure.



FOOTNOTE

1. The ten problems which were used in the study were:
  1. Every student in the College is required to take CS 105.
  2. Students are allowed only two weeks to decide which course to put on the pass-fail basis.
  3. Almost no courses are available on a satisfactory/unsatisfactory grading basis.
  4. The College requires a minimum of 124 hours to complete the degree.
  5. Double majors are not permitted in the College.
  6. The College does not have a work/study program for its students.
  7. The rules for dropping courses before the end of the semester are too stringent.
  8. The final exam schedule is too inflexible.
  9. Priorities in registration scheduling (i.e., seniors and 1st semester freshman first) are unfair.
  10. Present rules for the appeal of grades are too cumbersome.





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